

AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer claims indicated as cancelled.

1. (Currently Amended) An antenna structure comprising a dielectric pellet, an electrically-conductive direct feed structure connected to the dielectric pellet, and a dielectric substrate with upper and lower surfaces and at least one groundplane, wherein the dielectric pellet is elevated above the upper surface of the dielectric substrate such that the dielectric pellet does not directly contact the dielectric substrate or the at least one groundplane, ~~the dielectric pellet comprising an electrically-conductive direct feed structure~~, and wherein the antenna structure additionally comprises a radiating antenna component which is elevated above the upper surface of the dielectric substrate and has a surface that faces a surface of the dielectric pellet.
2. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the electrically-conductive direct feed structure extends from the upper surface of the dielectric substrate and directly contacts the dielectric pellet.
3. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 2, wherein the electrically-conductive direct feed structure physically supports the dielectric pellet.
4. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 2, wherein the dielectric pellet is elevated above the at least one groundplane or the dielectric substrate by a low permittivity antenna support structure.
5. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the electrically-conductive direct feed structure is selected from a group consisting of: a conducting leg, a spring-loaded pin, a metal strip or a metal ribbon.

6. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the electrically-conductive direct feed structure is directly attached to at least one side or surface of the dielectric pellet.
7. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 6, wherein the electrically-conductive direct feed structure is directly attached to more than one side or surface of the dielectric pellet.
8. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 7, wherein the dielectric pellet is contained in an electrically-conductive cup or cage, and wherein the electrically-conductive direct feed structure is electrically connected to the cup or cage.
9. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein at least one side or surface of the dielectric pellet is metallised, and wherein the electrically-conductive direct feed structure is soldered or otherwise electrically connected to the metallised side or said surface of the dielectric pellet.
10. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the electrically-conductive direct feed structure is a spring-loaded pin extending upwardly from the upper surface of the dielectric substrate, wherein the dielectric pellet has a metallised underside that faces the upper surface of the dielectric substrate, and wherein a tip of the spring loaded pin electrically contacts the metallised underside.
11. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the radiating antenna component is an electrically-conductive antenna component.
12. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 11, wherein the radiating antenna component is selected from a group consisting of: patch antenna, slot antenna, monopole antenna, dipole antenna, planar inverted-L antenna and planar inverted-F antenna.

13. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the radiating antenna component is a dielectrically loaded antenna component.

14. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 13, wherein the radiating antenna component is configured as a planar inverted-L antenna with a radiating structure extending over a block of dielectric material such as a dielectric ceramic material.

15. (Cancelled)

16. (Cancelled)

17. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the radiating antenna component is provided with an independent feed.

18. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 17, wherein the radiating antenna component is a planar inverted-F antenna.

19. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, further comprising at least one additional radiating antenna component having a surface that faces a surface of the dielectric pellet.

20. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, comprising a plurality of dielectric pellets.

21. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the at least one groundplane is located on the lower surface of the dielectric substrate.

22. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the at least one groundplane is located on the upper surface of the dielectric substrate.

23. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein a first groundplane is located on the upper surface of the dielectric substrate and a second groundplane is located on the lower surface of the dielectric substrate.

24. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the at least one groundplane is sandwiched between the upper and lower surfaces of the dielectric substrate.

25. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the at least one groundplane extends across at least that part of the dielectric substrate that is located directly below the elevated dielectric pellet.

26. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the at least one groundplane extends across substantially an entire area of the dielectric substrate.

27. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein the at least one groundplane is absent from an area of the dielectric substrate that is located below the dielectric pellet.

28. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 1, wherein a gap defined between the dielectric pellet and the upper surface of the dielectric substrate is filled with a solid dielectric filler with a dielectric constant less than ~~that~~ the dielectric constant of the dielectric pellet.

29. (Currently Amended) ~~An~~ The antenna structure as claimed in claim 28, wherein the solid dielectric filler has a dielectric constant not more than 10% of ~~that~~ the dielectric constant of the dielectric pellet.

30. (Cancelled)

31. (New) The antenna structure as claimed in claim 1, wherein an air gap is provided between the surface of the dielectric pellet and the radiating antenna component.

32. (New) The antenna structure as claimed in claim 1, wherein a dielectric spacer material is provided between the surface of the dielectric pellet and the radiating antenna component.

33. (New) An antenna structure comprising a dielectric ceramic pellet and a dielectric substrate with upper and lower surfaces and at least one groundplane, wherein the dielectric ceramic pellet is elevated above the upper surface of the dielectric substrate such that the dielectric ceramic pellet does not directly contact the dielectric substrate or the groundplane, the dielectric ceramic pellet being provided with an electrically-conductive direct feed structure that is in direct electrical contact with the dielectric ceramic pellet, and wherein the antenna structure additionally comprises a radiating antenna component having a conductive element as a primary radiator, the radiating antenna component being elevated above the upper surface of the dielectric substrate and having a surface that faces a surface of the dielectric ceramic pellet.